

ELECTROCOMP®

SEQUENCER

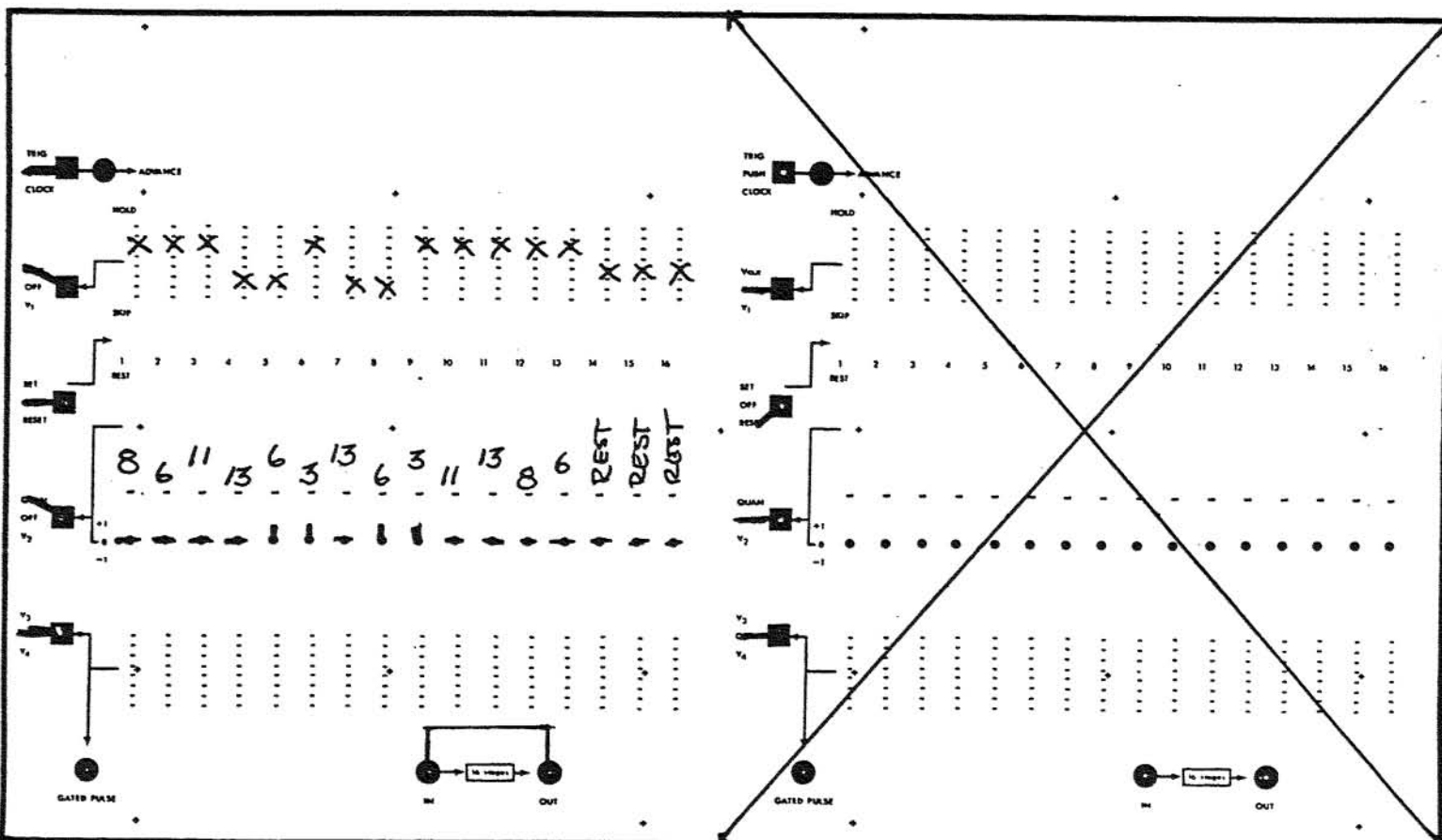
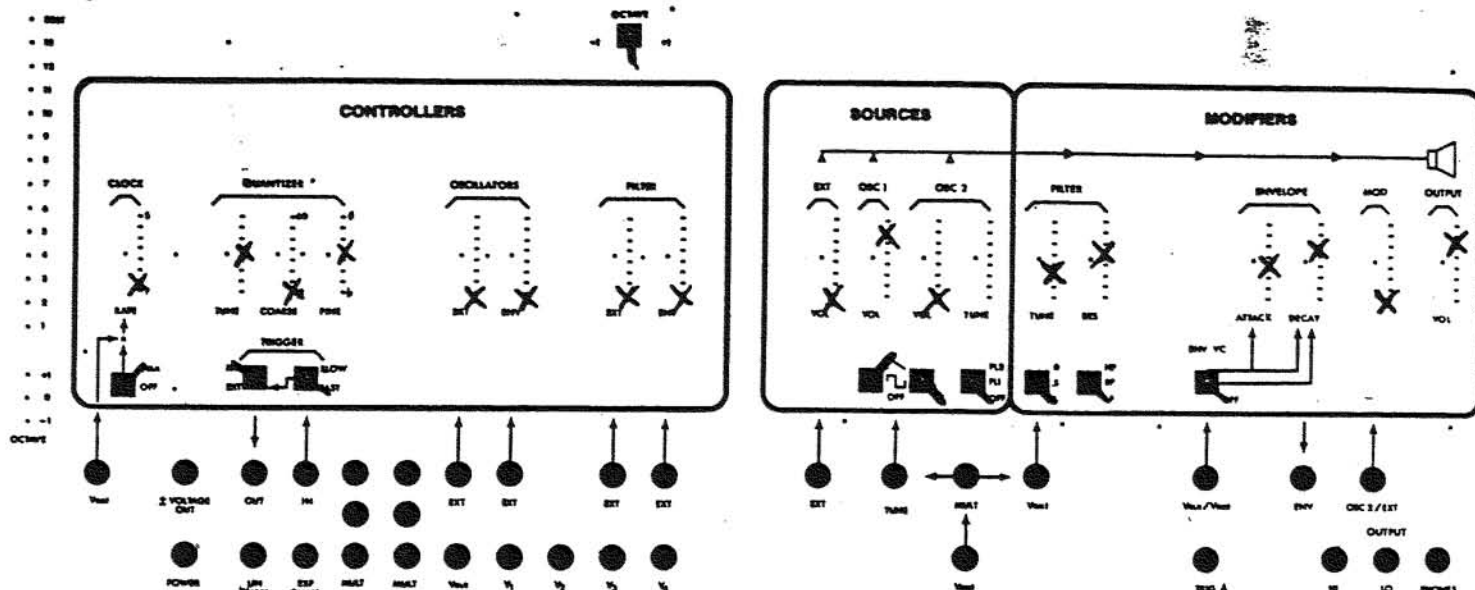
ELECTRONIC MUSIC LABS, INC. VERNON, CALIF. 91330

DIAGRAM P-3

PROGRAMMING THE EML 400

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EML 401



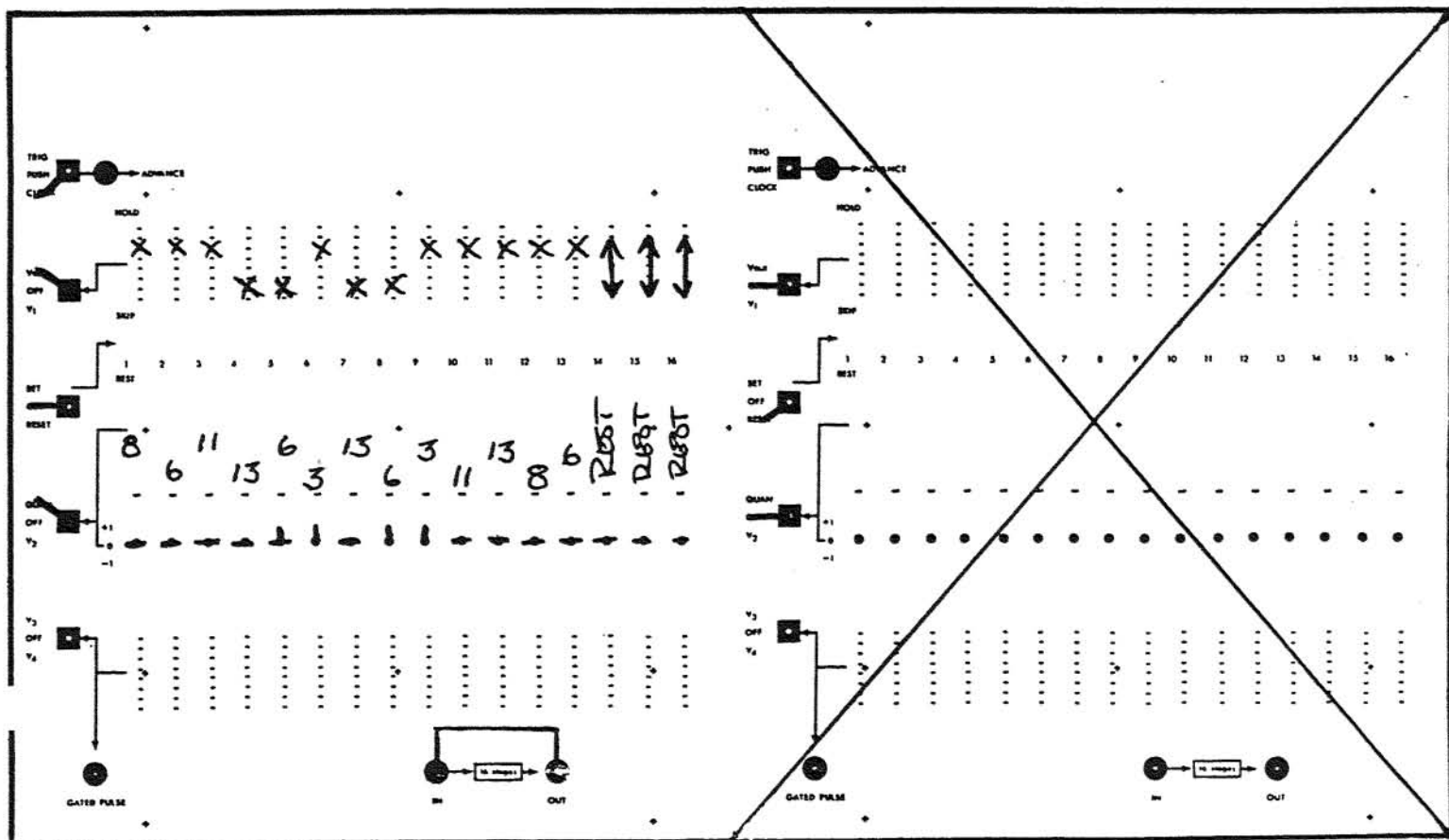
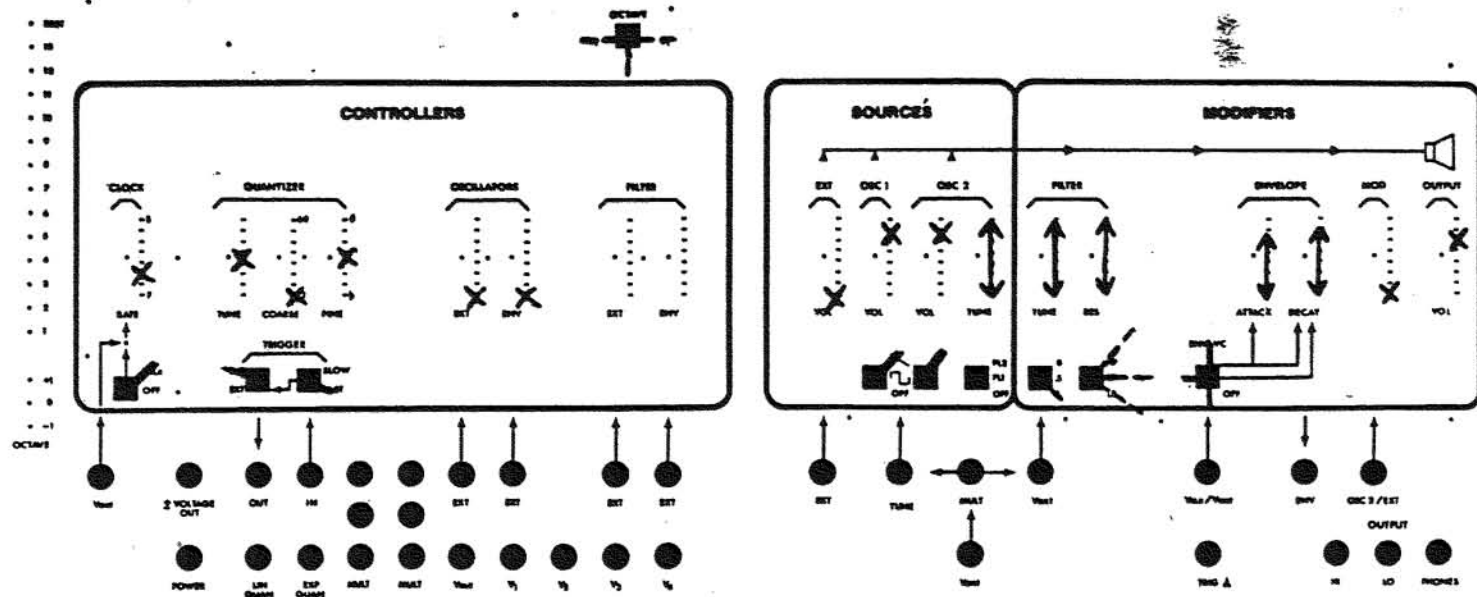
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ELECTRONIC MUSIC LABS, INC. VERMONT, BOSTON, MASS.

DIAGRAM P-4 PROGRAMMING THE EML 400

ELECTROCOMP[®] EML 401



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ELECTRONIC MUSIC LABEL, INC. VERBENA, CALIF. 94054

DIAGRAM P-5
PROGRAMMING THE EML 400

ELECTROCOMP[®]
EML 401

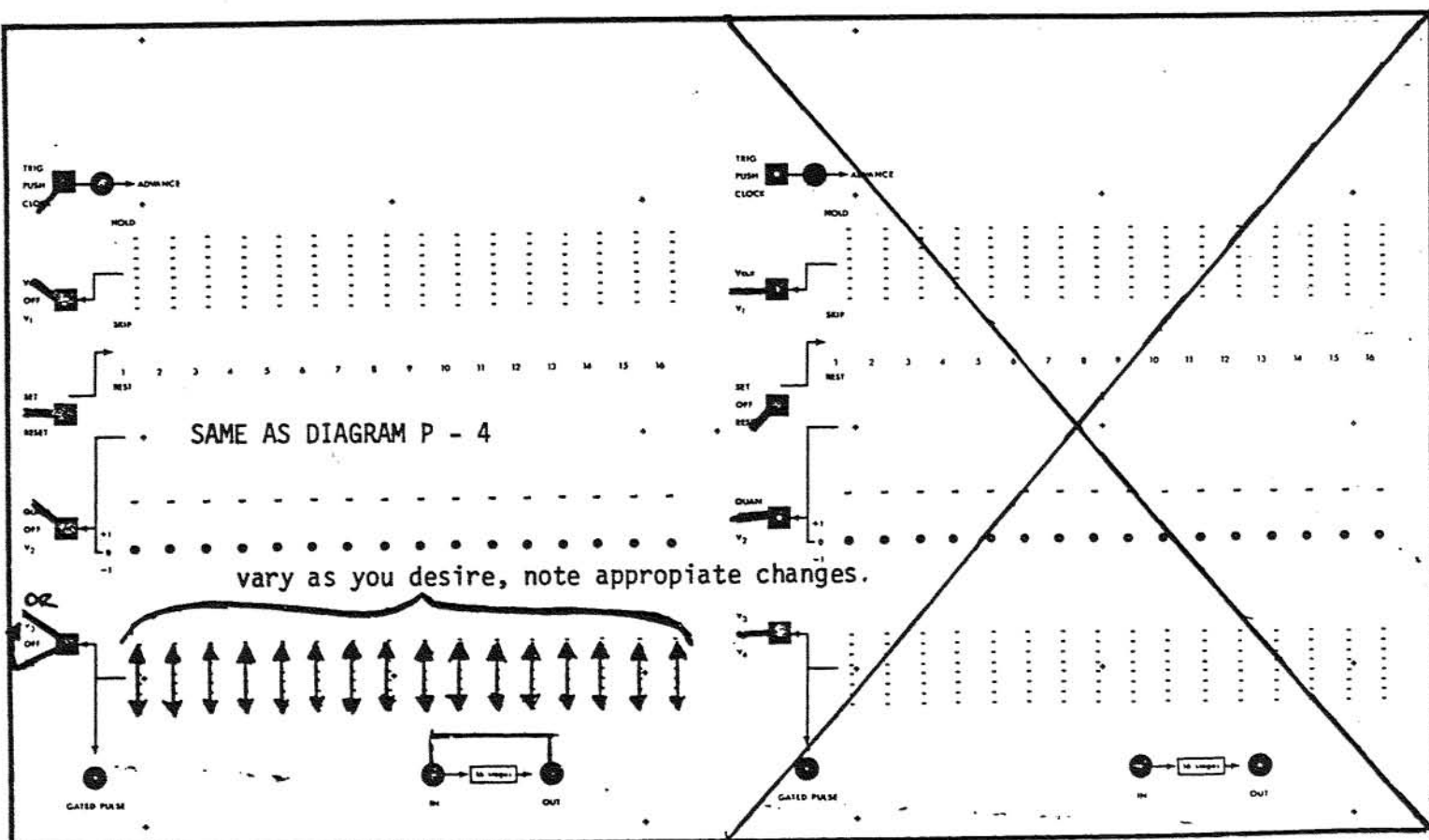
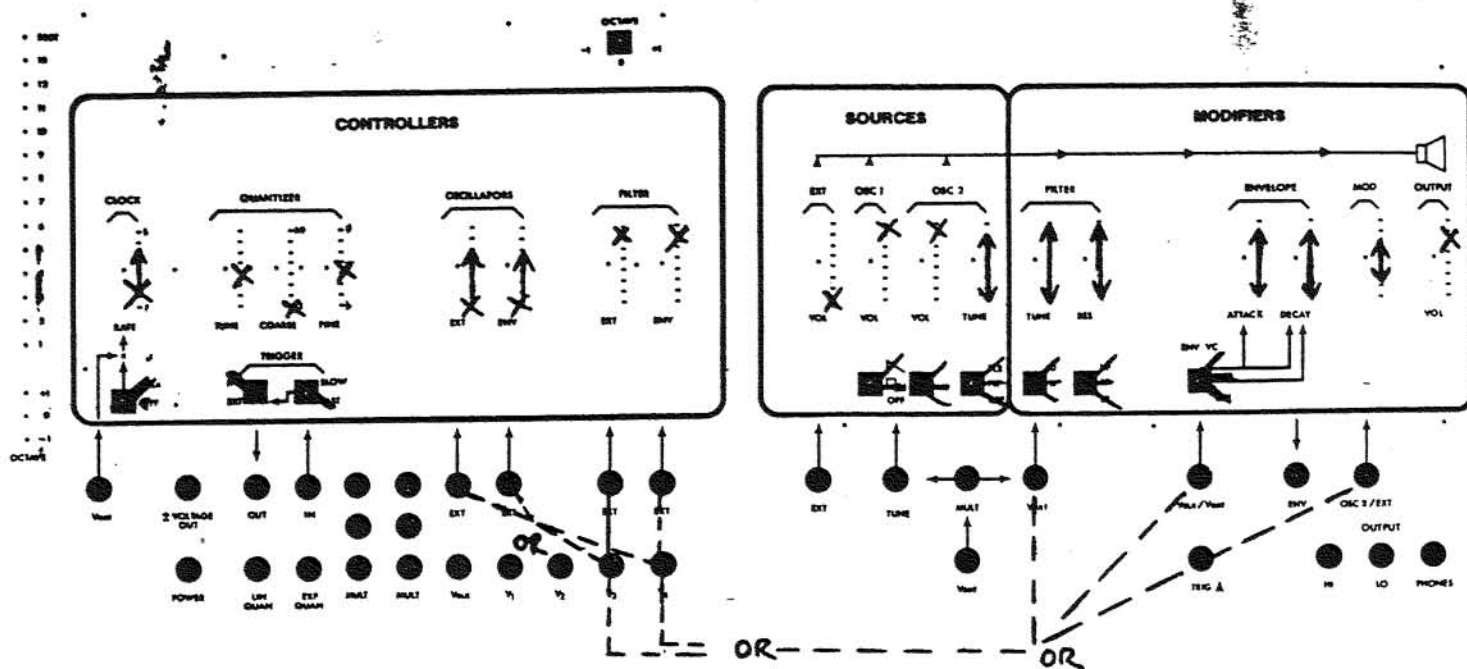


DIAGRAM P-6

ELECTRONIC BONDING LAB., INC. VERMONT COMM. BONDING

EML 401



PATCHES FOR PERMUTATING A SEQUENCE
FOR SEQUENCER SYSTEMS CONTAINING EML 400/416/401

A. PERMUTATING A SEQUENCE

- I "READY" THE SEQUENCER - (Note accompanying Diagram P-6)
- II PROGRAM PANEL A MAY BE PROGRAMMED FOR ANY SEQUENCE YOU DESIRE
- III The SET/OFF/RESET SLIDE SWITCHES for both PROGRAM PANELS should be positioned in the following sequence - RESET - SET - OFF.
- IV Control Voltage Row 1 sliders should all be set in the SKIP position except Stage #1, which may be set to any duration above SKIP.
- V Control Voltage Row 3 sliders are implemented to provide GATED PULSES. For each slider raised one pulse is produced. The number of sliders up determines whether a patterned permutation will occur, or if the sequence "moves" continuously, or if only 8, 4, or 2 stages will sound.

A patterned permutation exists when the number of sliders "up" does not divide equally into the 16 stages. $S = 3, 5, 7, 9, 10, 11, 12, 13, 14$, do not divide into 16 equally. Permutations exist on the order of $16 \times S$.

If you have 2 sliders up in PROGRAM PANEL B, ROW 3, the same 8 stages of PROGRAM PANEL A will light and sound. $16 \div 2 = 8$. 4 up, 4 stages will light and sound. $16 \div 4 = 4$.

When 15 sliders are "up" in the third row of controller voltages of PROGRAM PANEL B. The result is a retrograde.

1 slide up - 1 continual pulse

2 slides up - 1 pulse, 1 skip

3 slides up - 1 pulse, 2 skip

4 slides up - 1 pulse, 3 skip

B. SPECIAL EFFECTS

V_3 or V_4 of either PROGRAM PANEL may be implemented to "control" a parameter of the sequence. It could be timbre, tempo, envelope, dynamics, a number of options are open.

EXPLORING VARIOUS RHYTHMNS ON A PREVIOUSLY PROGRAMMED SEQUENCE

- I. READY THE SEQUENCER (Note Diagram P-7)
- II. Wherever slider of Control Voltage Row 3 is raised (more than 20%), a GATED PULSE is initiated. In this patch, a raised slider will move the programmed sequence, on PROGRAM PANEL A, one stage over. Two adjacent sliders raised will provide two triggers, one right after the other. The length of time between them is directly proportioned to the CLOCK rate and the position of the duration sliders for the respective stages.

Note Diagram P-6. You may raise the third row of voltage control sliders of PROGRAM PANEL B at random.

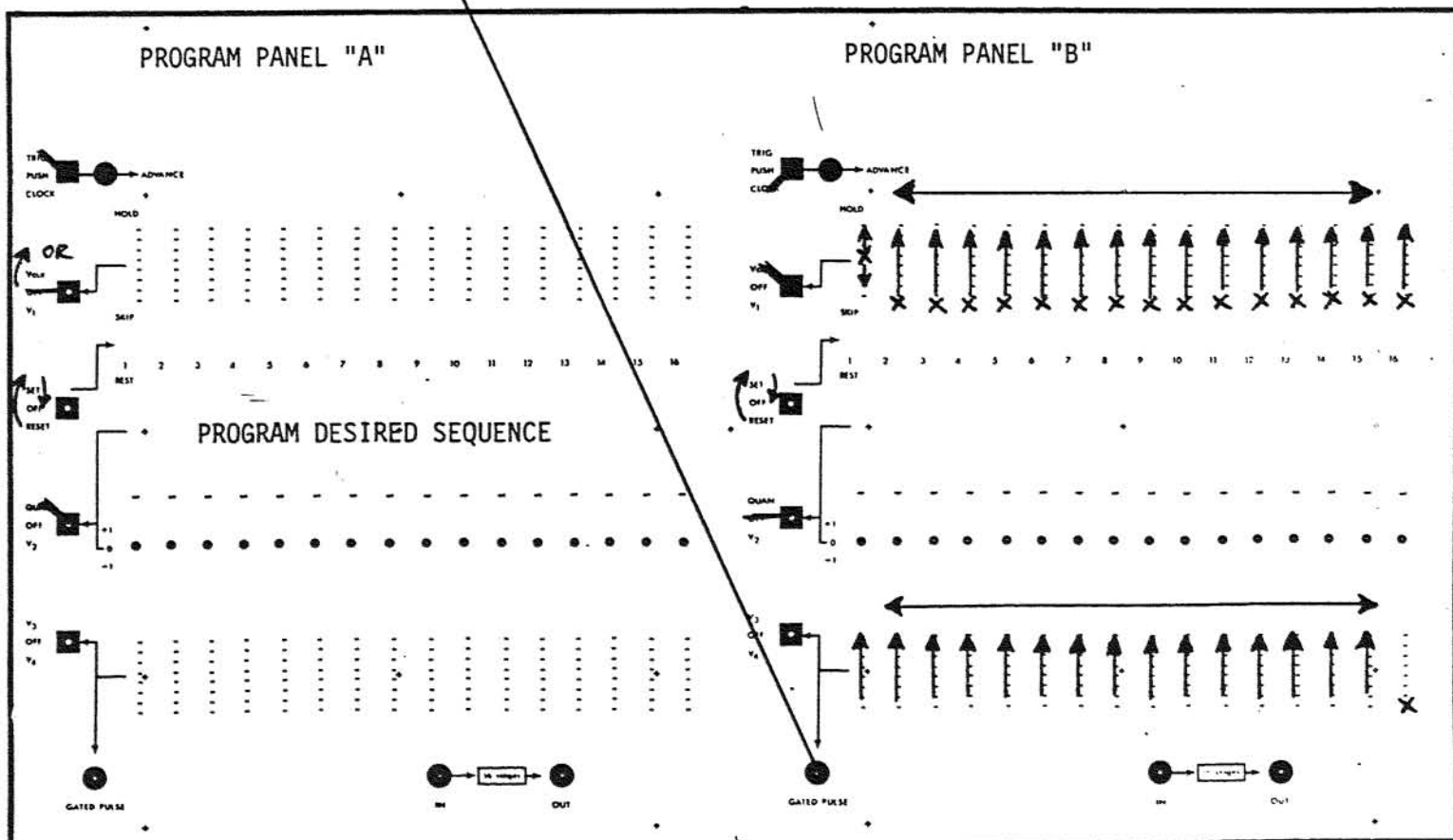
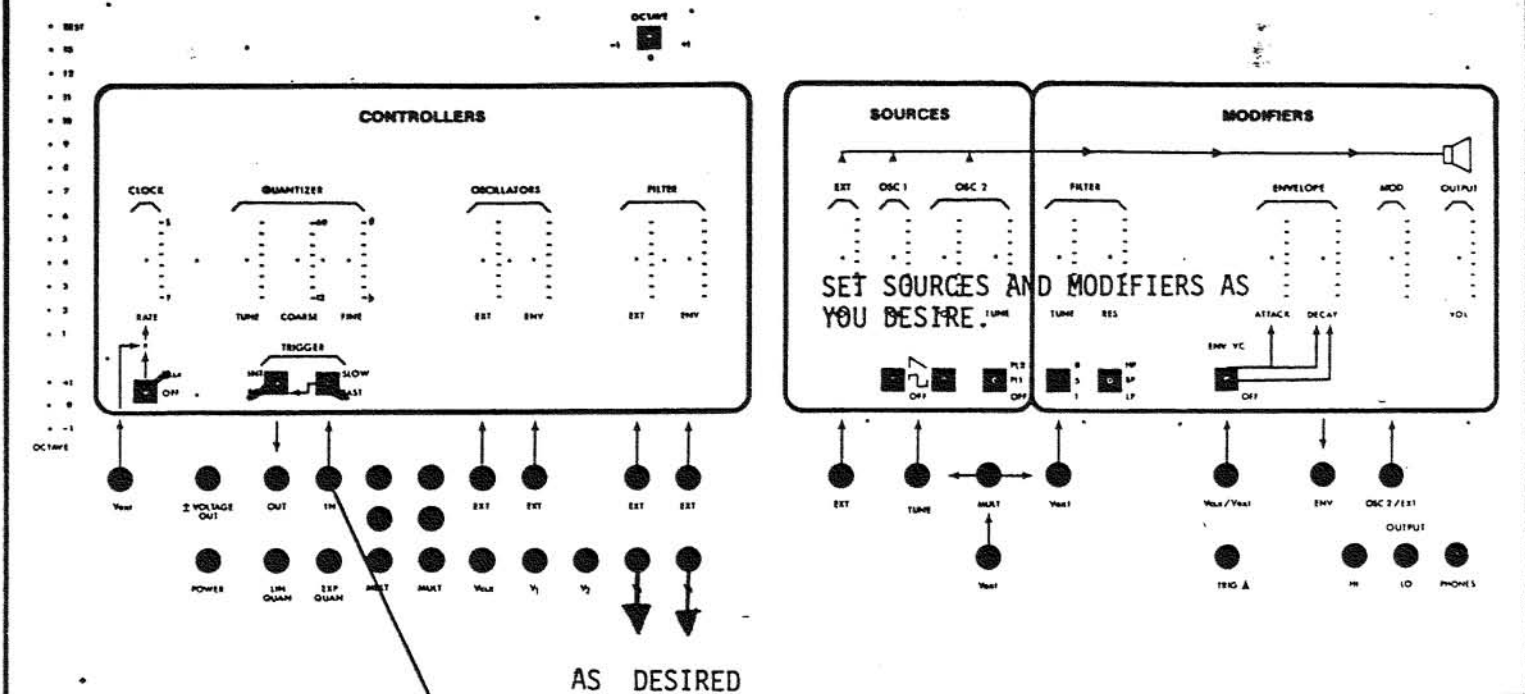
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SEQUENCER

ELECTRONIC MUSIC LAB., INC. VERMONT, CONN. 06069

DIAGRAM P-7

ELECTROCOMP[®]
EML 401



32 STAGE SEQUENCE

The methodology - the READYING, PROGRAMMING and RUNNING procedures - for setting up a sequence of 32 stages are precisely the same as for a 16 stage sequence. The difference lies in the fact that you have to READY and PROGRAM two PROGRAM PANELS instead of one.

NOTE: The section on "Programming the EML 400 Sequencer".

In order to program Stages 17 to 32 (PROGRAM PANEL B) set the SET/OFF/RESET Slide Switch of PROGRAM PANEL A (Stages 1-16) to RESET. Set the Advance Switch of PROGRAM PANEL B to PUSH for pushbutton advance and the SET/OFF/RESET Switch to RESET, to SET, finally to OFF.

When the programming has been completed, check the sequence.

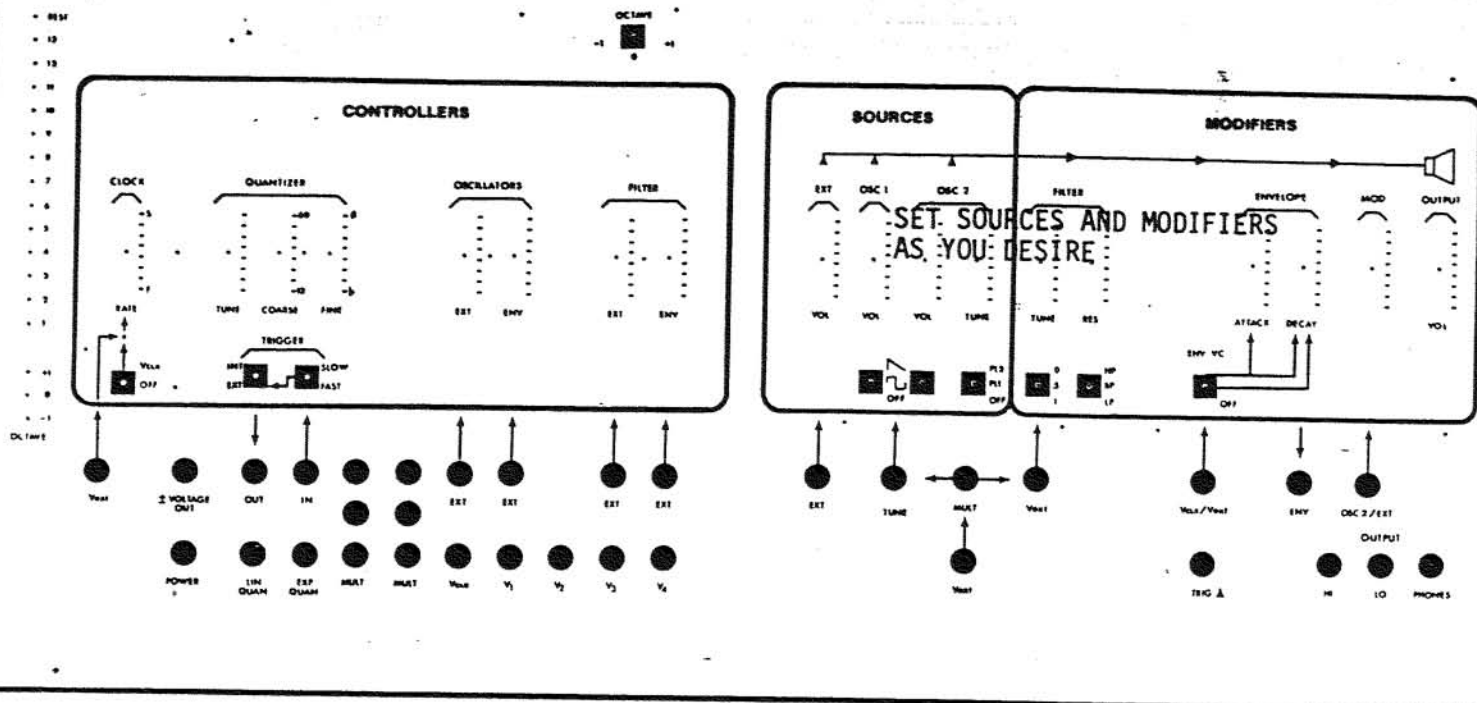
To run the sequence, place the Advance Slide Switches of both PROGRAM PANELS to CLOCK and fix the tempo. Next, position the SET/OFF/RESET switch to RESET, to SET, finally to OFF.

ELECTROCOMP[®] SEQUENCER

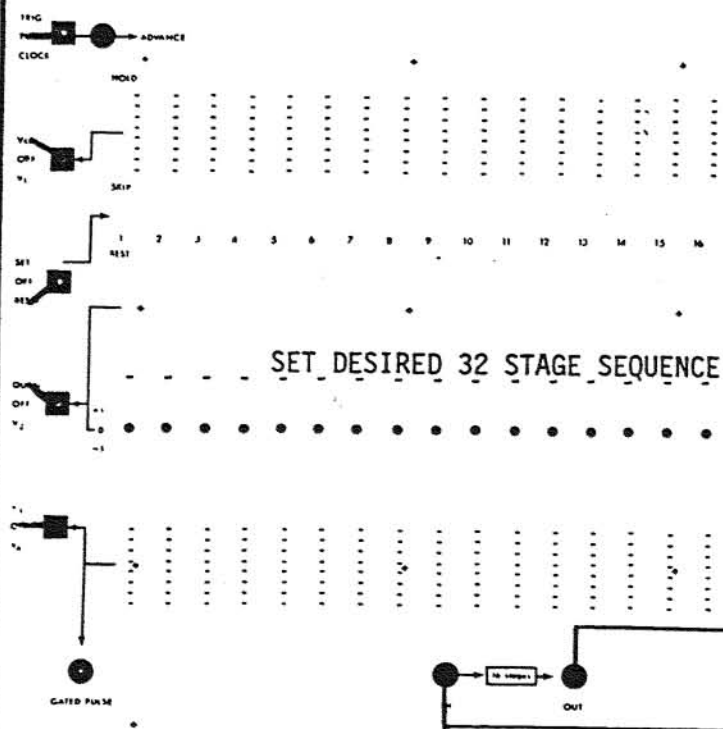
ELECTRONIC MUSIC LABS, INC. VERNON, CONN. 06066

DIAGRAM P-8

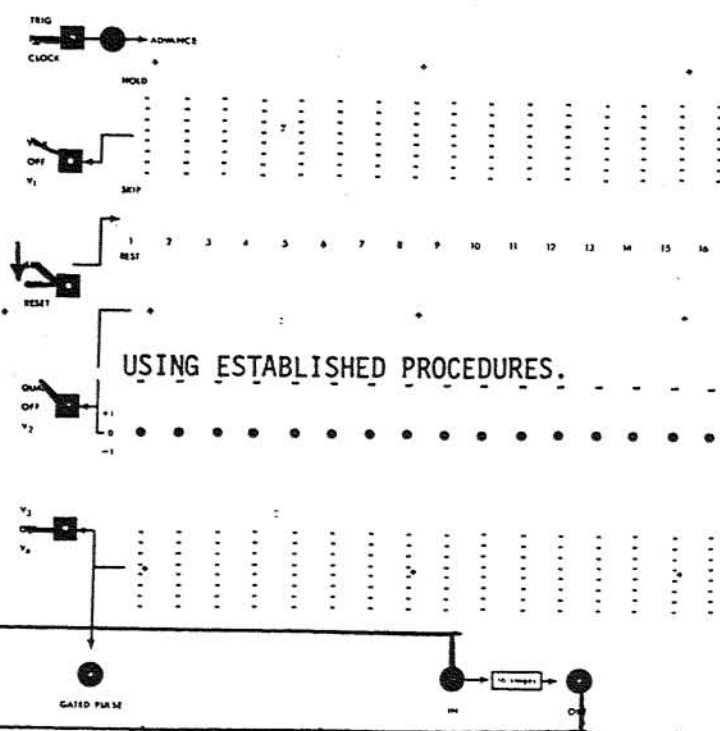
ELECTROCOMP[®]
EML 401



PROGRAM PANEL "A"



PROGRAM PANEL "B"



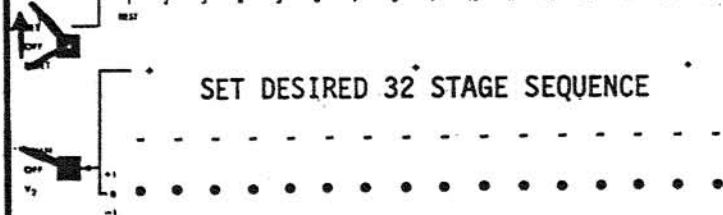
IN CONTACT WITH THE LASH, BUT WITHIN, OF THE EYE

DIAGRAM P-9

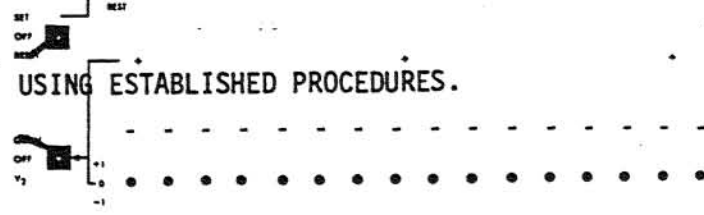
ELECTROCOMP
EML 401



PROGRAM PANEL "A"



PROGRAM PANEL "B"



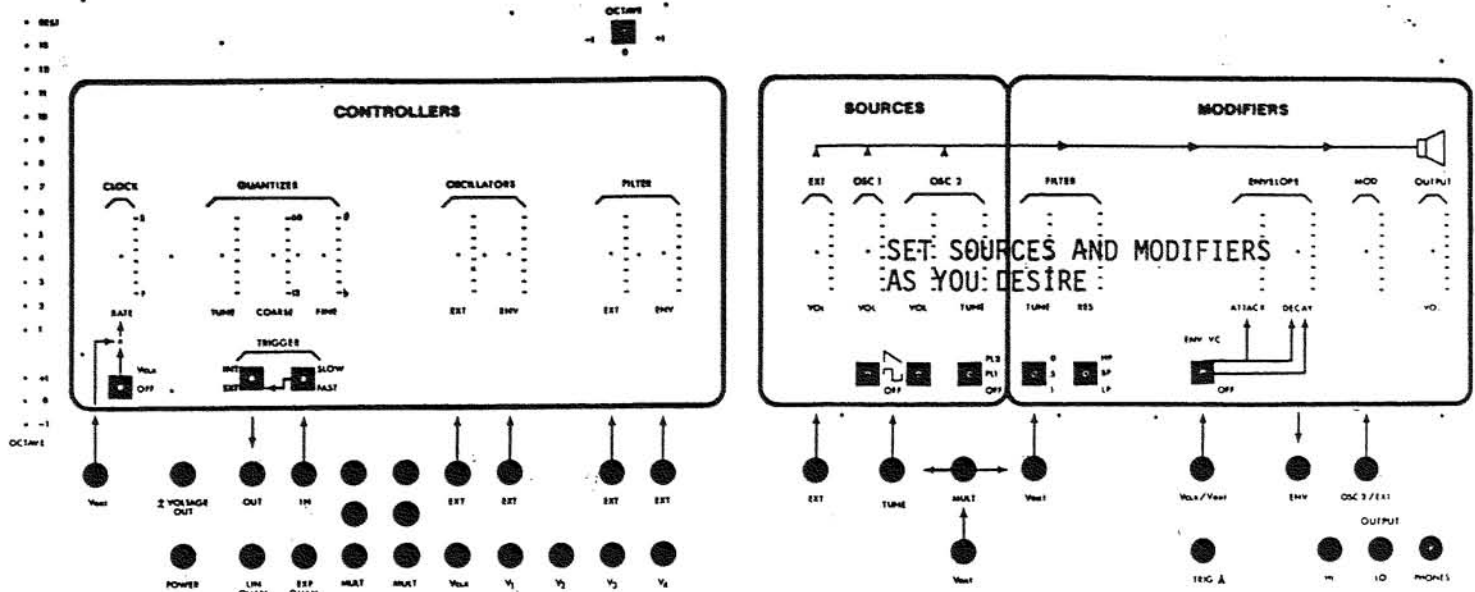
ELECTROCOMP[®]

SEQUENCER

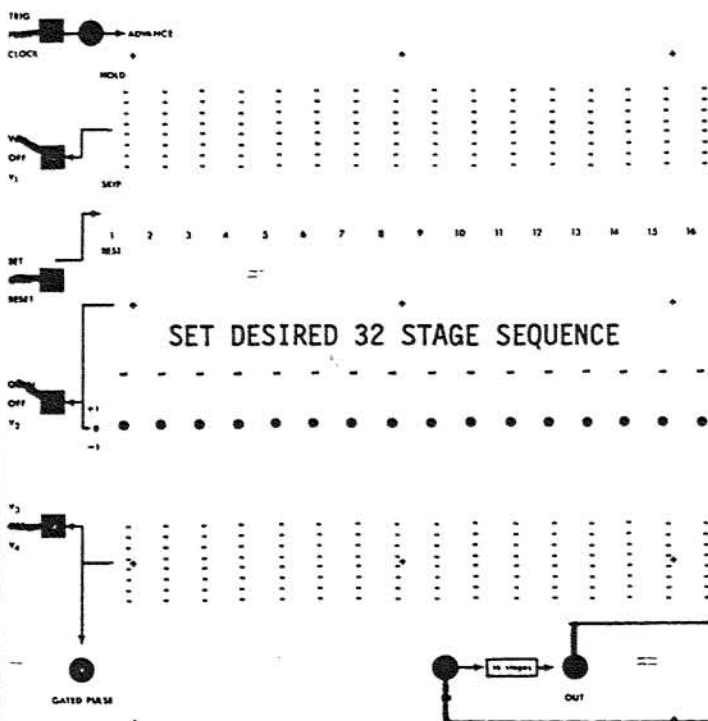
ELECTRONIC MUSIC LABS, INC. VERMONT 05601, 1968

DIAGRAM P-10

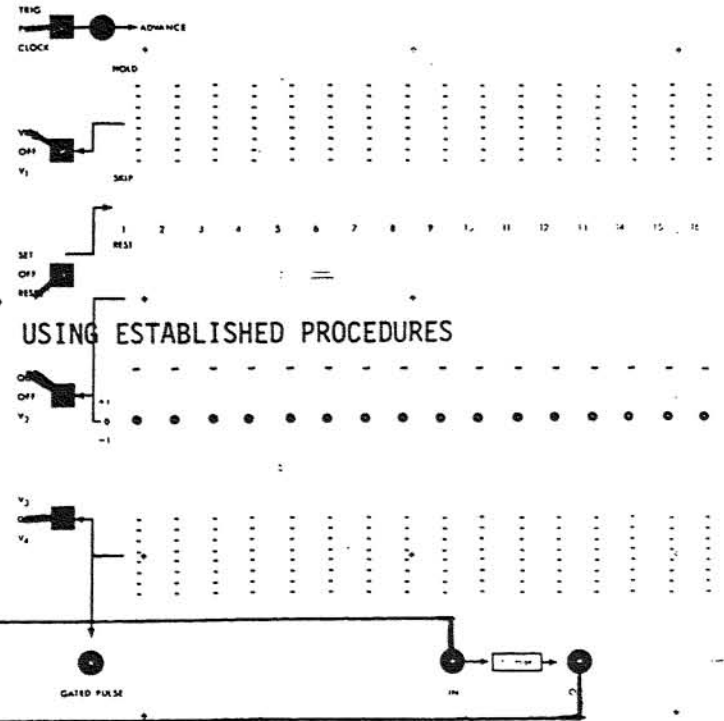
ELECTROCOMP[®]
EML 401



PROGRAM PANEL "A"



PROGRAM PANEL "B"

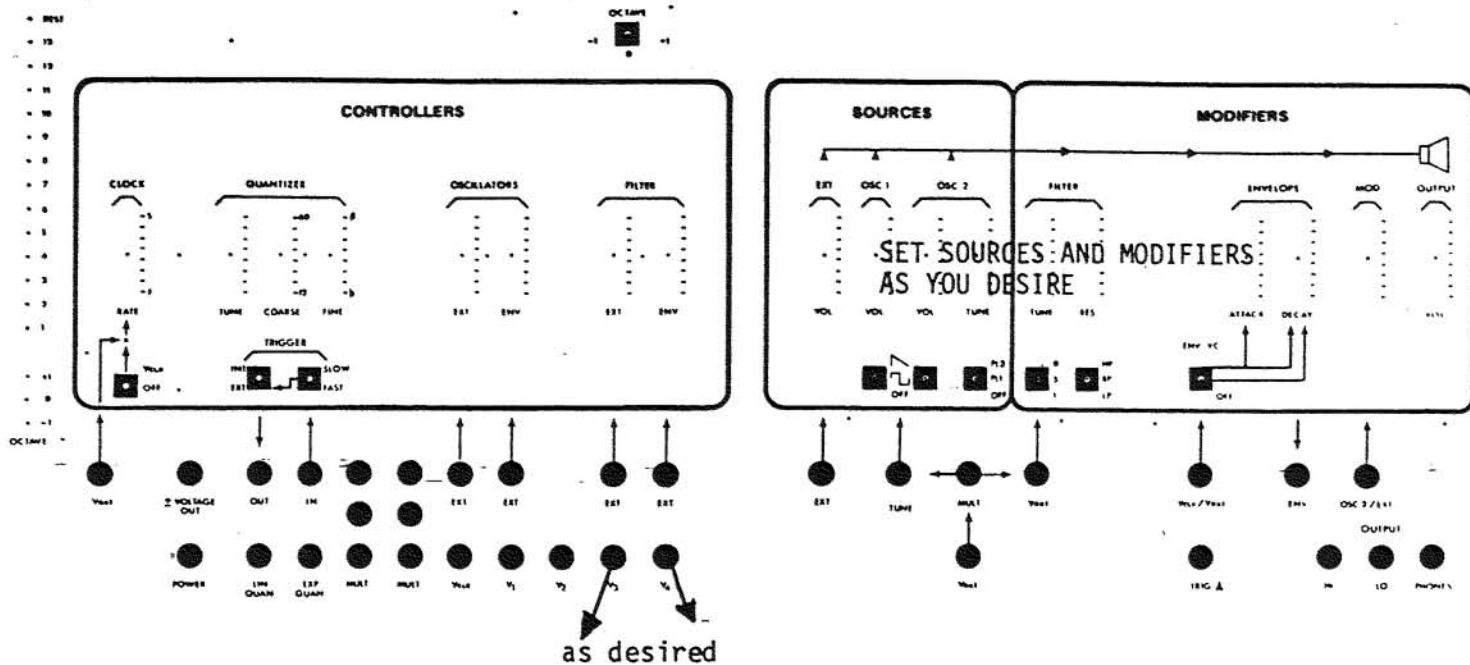


ELECTROCOMP[®] SEQUENCER

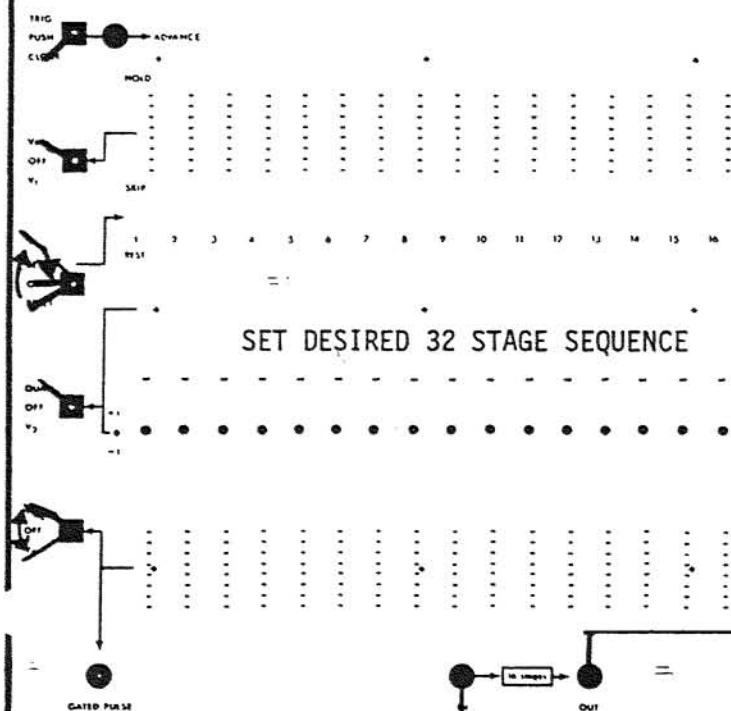
ELECTRONIC MUSIC LABS., INC. VERSION, CONN. 8888

DIAGRAM P-11

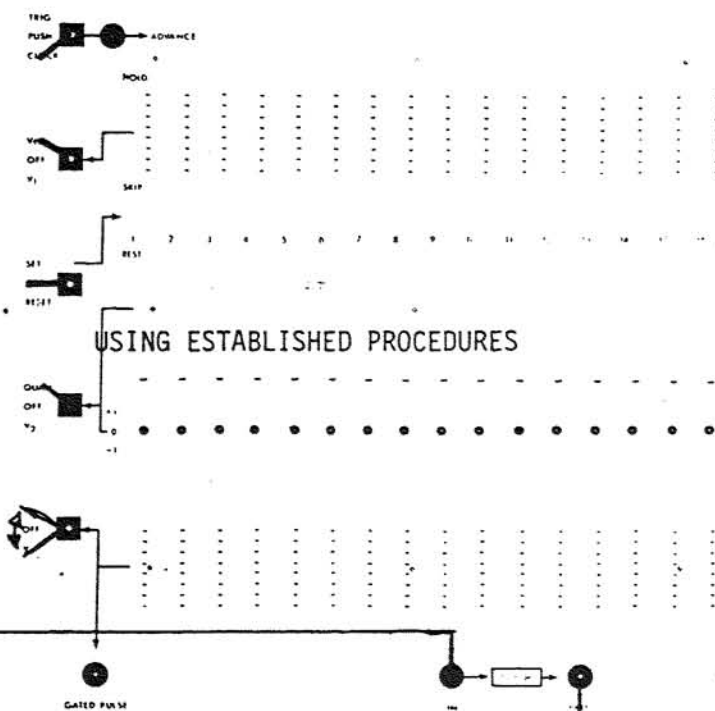
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EML 401



PROGRAM PANEL "A"



PROGRAM PANEL "B"



SEQUENCER METHODOLOGY -

OVERVIEW

It is recommended that the methodology established, which consists of the procedures for Scaling and Fine Tuning and Programming the EML 400 Series Sequencer, be followed whenever the Sequencer is to be programmed or reprogrammed. In summary the methodology is as follows:

I READYING THE SEQUENCER

- A. Place CONTROLLER functions in the "READY" mode.
- B. Place SOURCE functions in the "READY" mode.
- C. Place MODIFIER functions in the "READY" mode.

II READYING THE PROGRAM PANEL

- A. Slide switches
- B. Control voltage rows and their respective sliders.

III SCALE AND TUNE

- A. QUANTIZER
 - 1. COARSE
 - 2. TUNE
 - 3. FINE
- B. PROGRAM PANEL
 - 1. "Readying" the PROGRAM PANEL for tuning.
 - 2. Stage #1, pitch row, slider #1
 - 3. LED vertical column
- C. OPTIONAL - Reference Pitch

IV PROGRAMMING THE SEQUENCER

- A. Advance Pushbutton..
- B. Pitch settings for planned sequence.
- C. Duration/stage of the sequence (rhythm).
- D. Checking the program.
- E. Double checking the program.

V RUNNING THE SEQUENCE

VI ADDED EFFECTS

INTERFACING THE EML 401 MODULE WITH THE EML 101

OR EML 500* KEYBOARD SYNTHESIZERS

EML 101 (Note Diagram I-1) Connect as indicated. The TUNE rotary control is used to tune the 401 oscillators and filters in relation to the 101's sources. They may be tuned to unison or to varied intervals.

EML 500 (Note Diagram I-2) To control the oscillators of the 401 from the EML 500, simply connect the CONTROL VOLTAGE output of the EML 500 to the oscillator control input of the EML 401 marked - Vext. Tuning the 401's oscillators to either unison or intervals in respect to the EML 500's is accomplished with the TUNE control knob on the 401. Initiating the 401's voltage control envelope generator is realized by taking a patchcord and connecting the GATE output from the EML 500 to the TRIGGER input of the EML 400 Sequencer or of the EML 401 module.

In order to have the Filter track the Keyboard control voltage a patchcord must be connected from the MULT jack to the filter's Vext jack. Carefully note Diagrams I-1 and I-2.

* The EML 500 synthesizer does require some modifications in order to make a complete and effective interfacing.

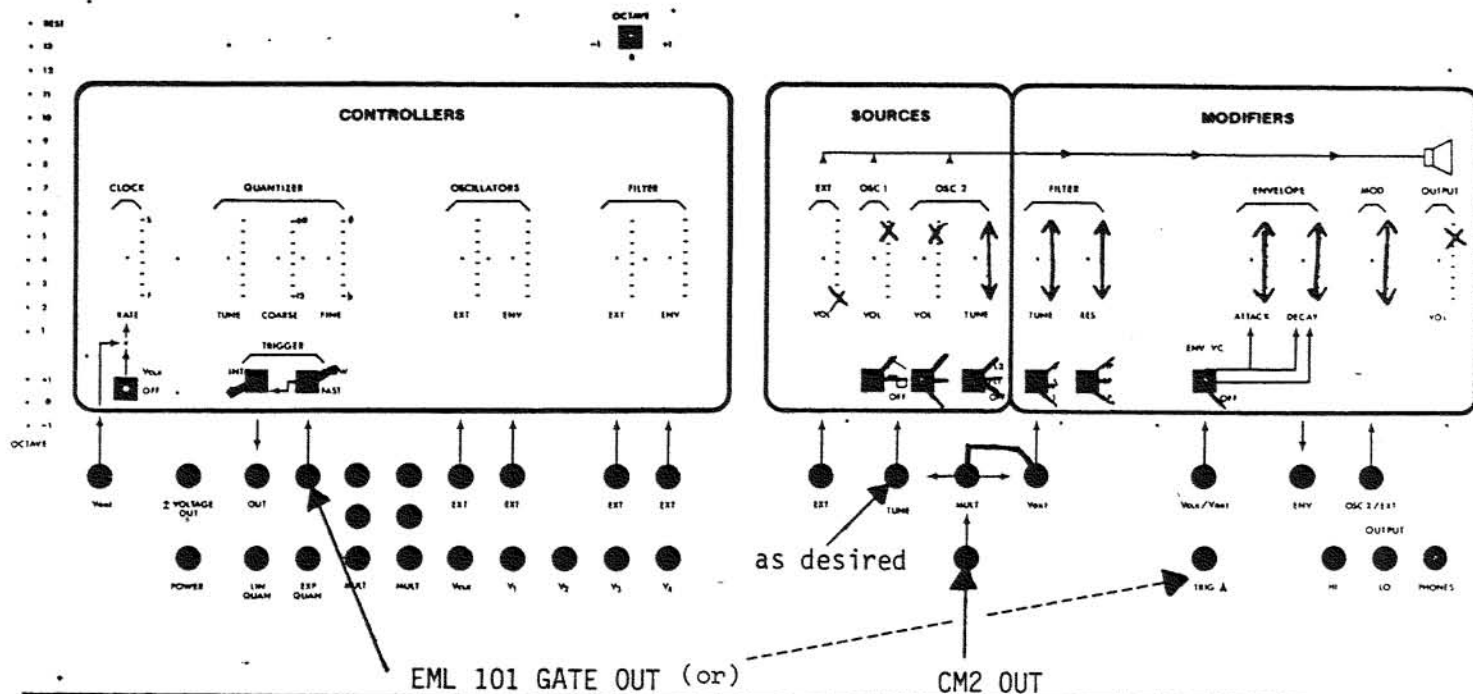
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DIAGRAM I-1

ELECTROCOMP[®]
EML 401



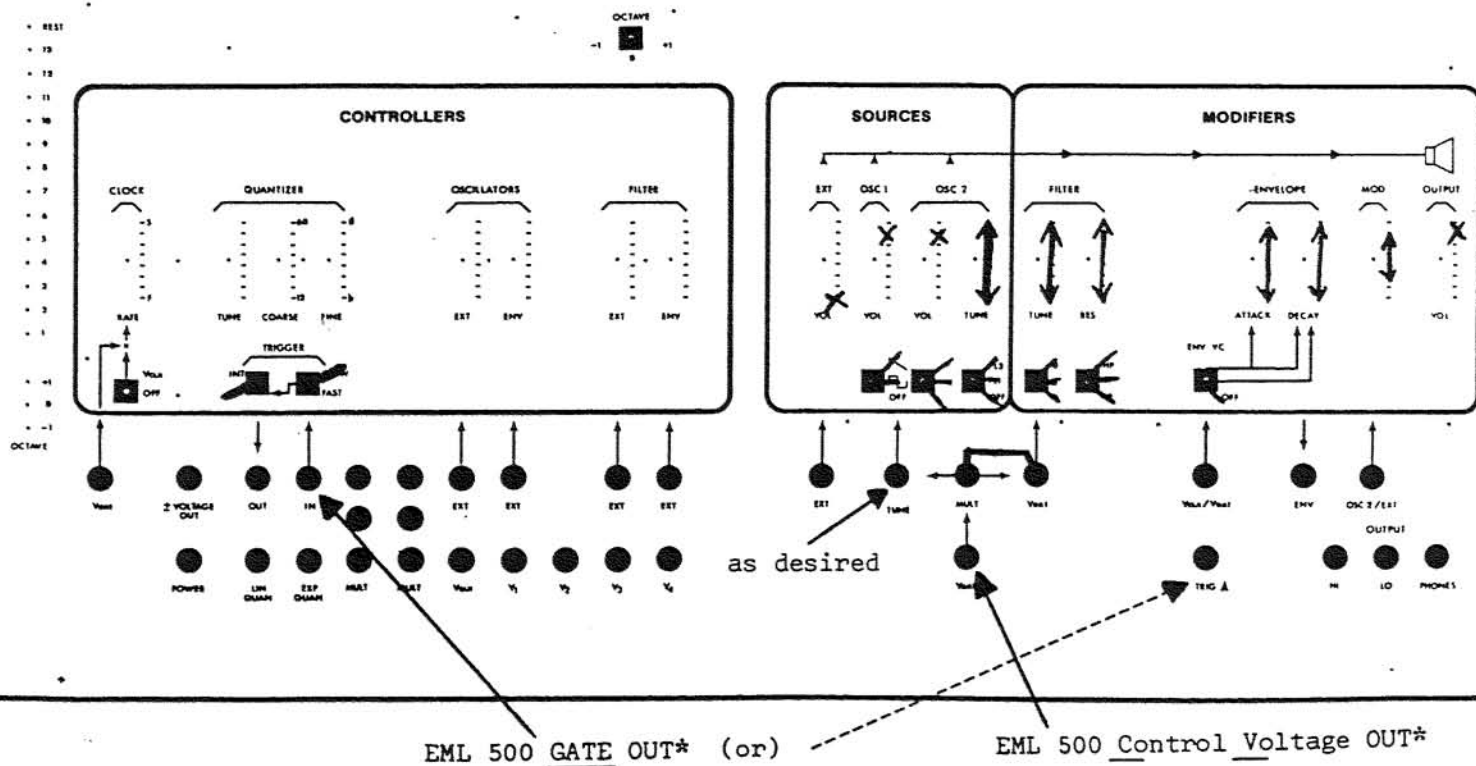
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DIAGRAM I-2

ELECTROCOMP[®]
EML 401

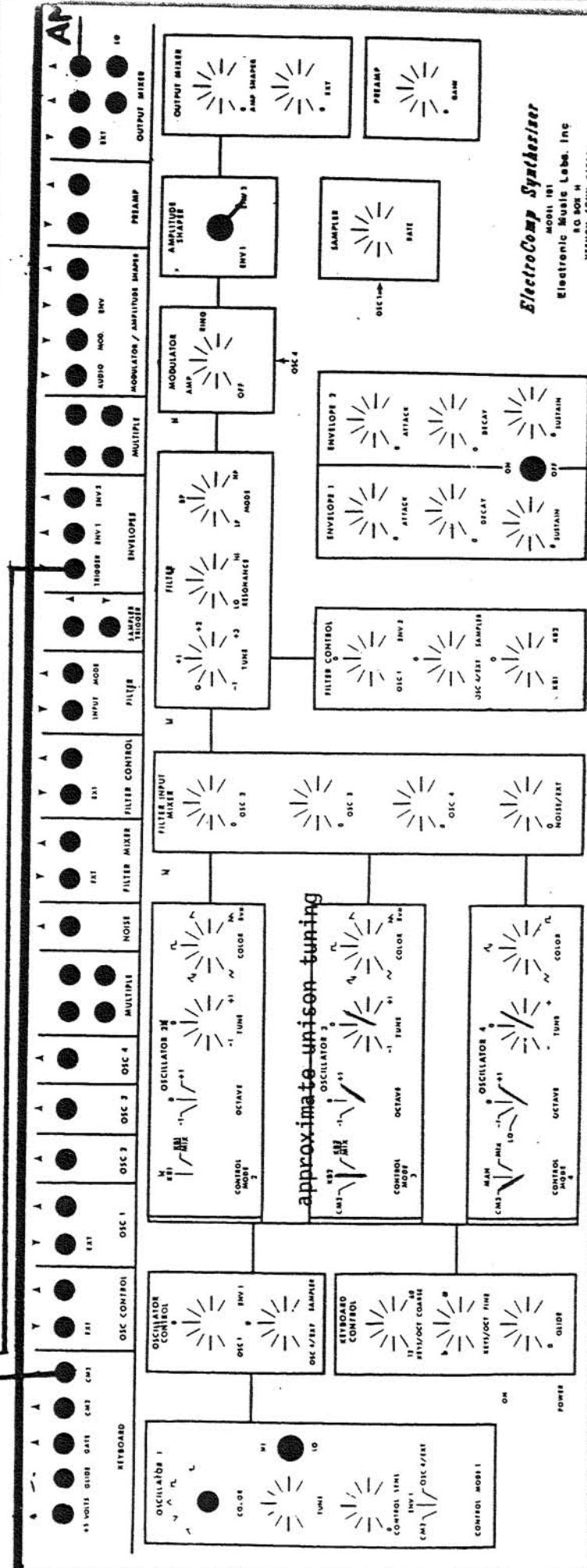
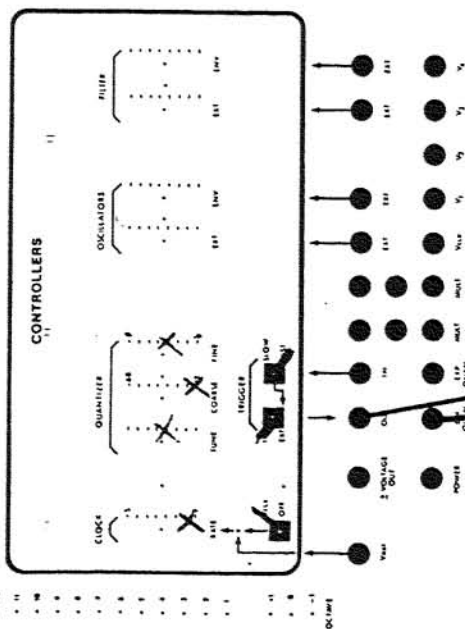


ELECTROCOMP[®]

SEQUENCER

ELECTRONIC MUSIC LABS, INC. 15400N CORN. RD.

EML 101 KEYBOARD SYNTHESIZER
as the SOURCE and MODIFIER
SECTION for the EML 400
"I" SERIES SEQUENCER

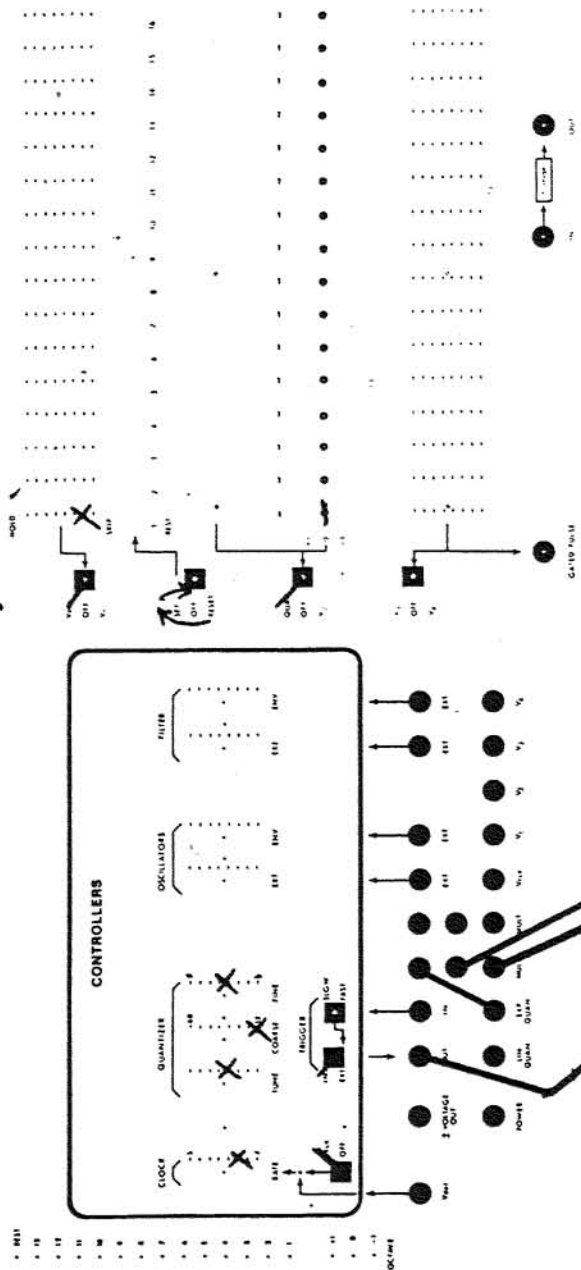


ElectroComp Synthesizer
Electronic Music Labs, Inc.
15400N CORN. RD.
VEINOM, CONN. 06094

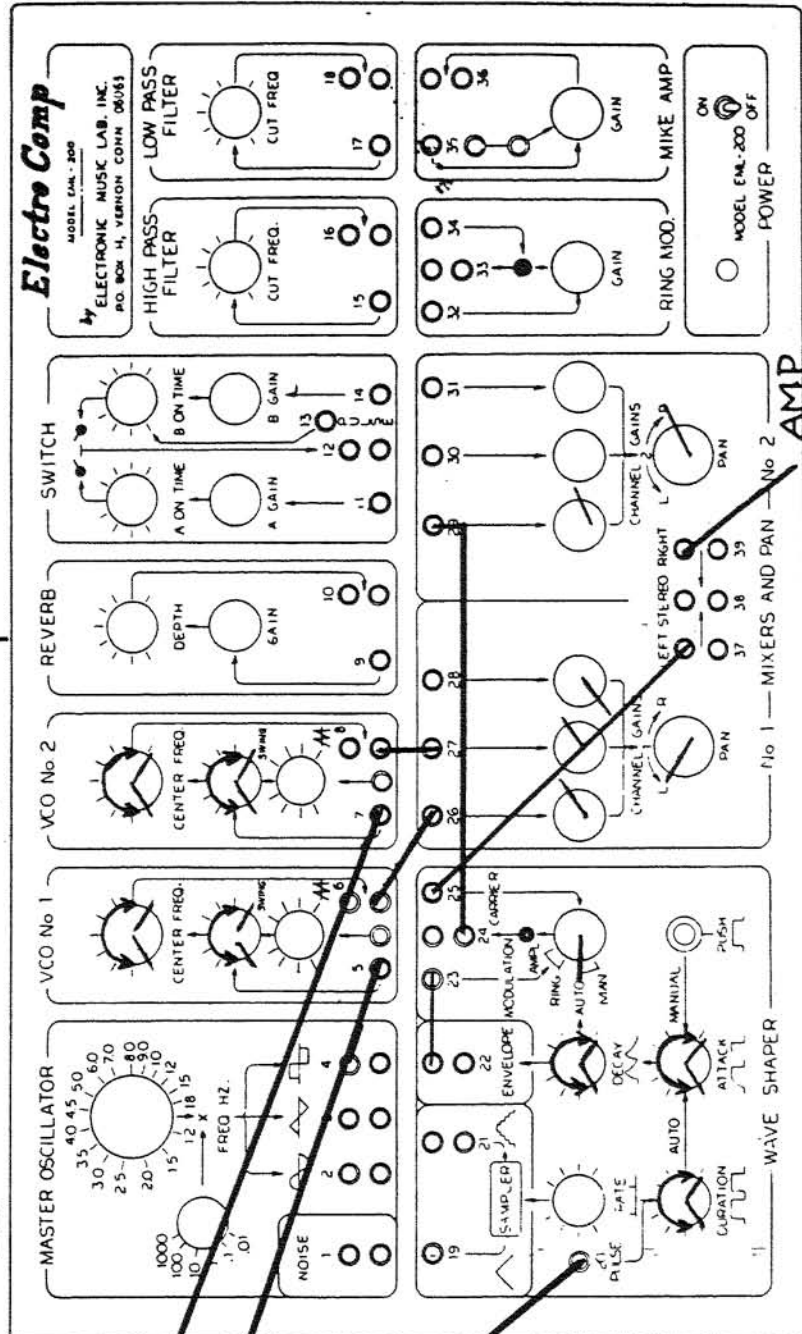
ELECTROCOMP[®]

SEQUENCER

ELECTRONIC MUSIC LAB, INC. VERNON, CALIF. 91465



EML 200 STUDIO SYNTHESIZER
as the SOURCE and MODIFIER
SECTION for the EML 400
SERIES SEQUENCER.

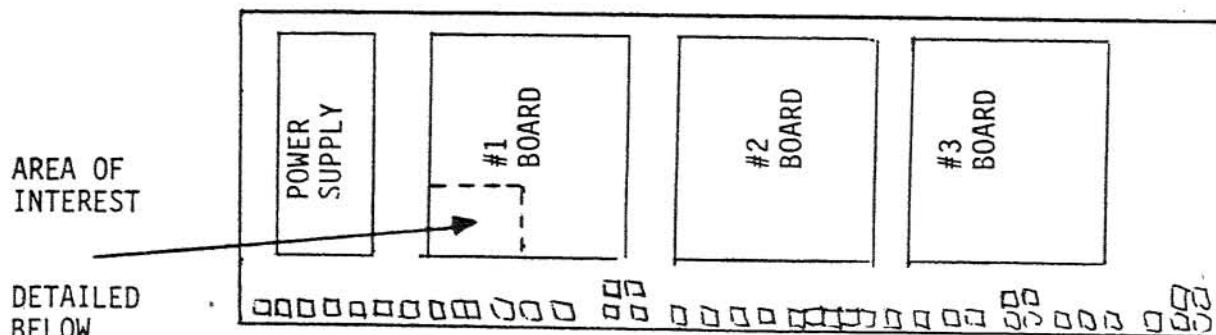


KEYBOARD CONTROL OF VCO1 & VCO2.
Adjust the frequency controls of
the 200's oscillators so that the
oscillators just "tick" at a rate
of 1 per second or less.
The Swing control is used for
octavation.

100/101 MODIFICATION FOR SEQUENCER OWNERS

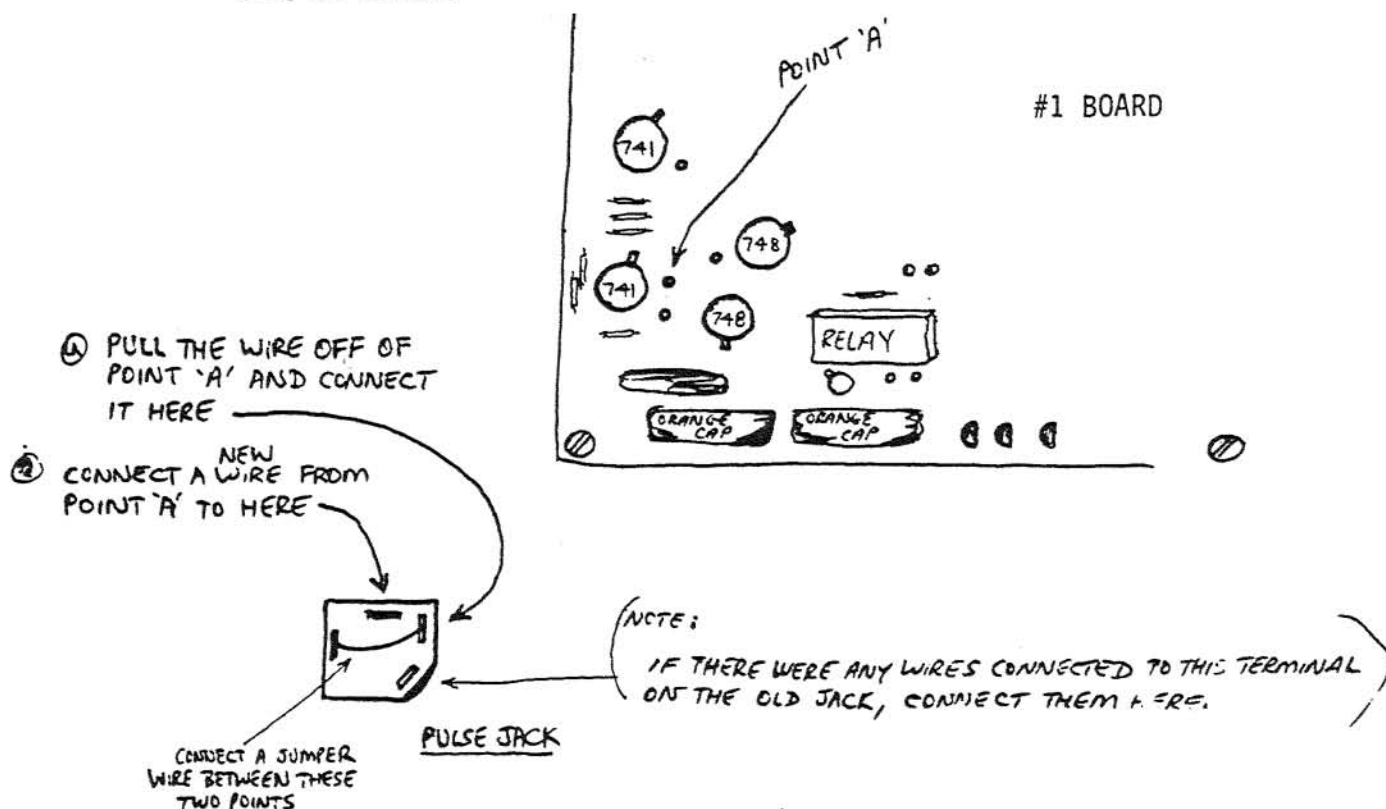
This modification permits Oscillator 3 and Oscillator 4 to be controlled from the Sequencer.

1. Remove the 4 or 5 allen screws located around the periphery of the synthesizer's panel.
2. While facing the 100/101 lift the right side of panel out first (the OUTPUT MIXER side). Slide the panel to the right and out.
3. Set the panel on a firm surface on its control knobs. Locate board #1 (see below).



For 100's and 101's before serial number 410:

4. Locate the KB2 jack, CM# jack on 101's. Disconnect the colored wire from the jack and tape the end so it won't short. This wire will not be connected to anything.
5. Replace the KB2 jack, CM# jack on 101's, with the pulse type jack supplied. Mount it so that the slanted corner faces the same direction as the other jacks. Wire as shown:

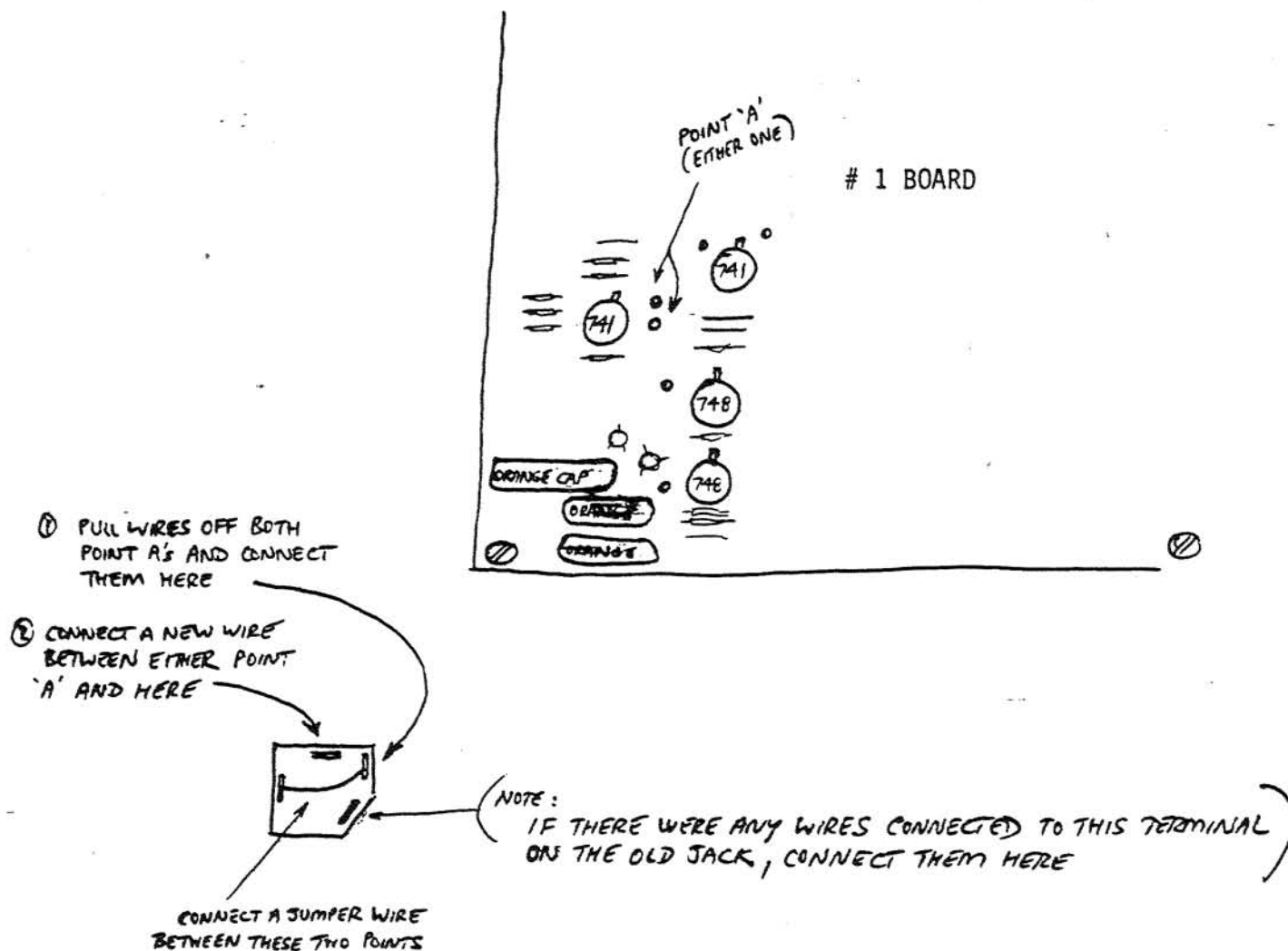


For 101's from serial number 410 to number 646.

4. (same as previous page)

5. (same as previous page)

Wire as shown:



If this procedure generates any questions, please don't hesitate to call or write before proceeding.